APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,432	12/11/2000	George I. Davida		3562

7590   01/26/2005

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EXAMINER
DASTOURI, MEHRDAD

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Technology Center 2600

	Application No.	Applicant(s)
Office Action Summary	09/734,432	DAVIDA ET AL.
	Examiner	Art Unit	
	Virginia M Kibler	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/14/04*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) *1-9 and 12-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 11/14/04 has been entered.

Response to Amendment

2.   The amendment received on 11/14/04 has been entered. Claims 1-20 remain pending.

Response to Arguments

3.   Applicant's arguments with respect to claims 1-20 have been considered but are moot in

view of the new ground(s) of rejection.

Request for Information Under 37 CFR 1.105

4.   The Examiner requests information under 37 CFR 1.105 regarding the portions of the

disclosure that provide the written description and enablement support for the amended

limitations in claim 1, lines 3-4 and 6-11.

Claim Objections

5.   Claims 1-9 and 12-20 are objected to because of the following informalities: "within

than a pre-determined" should be changed to "within a predetermined" in claim 1, line 9, claim

5, lines 8-9, and claim 16, line 7.

Claims 2-4 and 12-15 depend on claim 1, and are thereby objected to.

Claims 6-9 depend on claim 5, and are thereby objected to.

Claims 17-20 depend on claim 16, and are thereby objected to.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   Claims 1-4, 12-15, and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by

Davida et al. ("On Enabling Secure Applications Through Off-line Biometric").

Regarding claim 1, Davida et al. ("Davida") discloses a body part input means for

generating an information signal impressed with characteristics of a body part (Sect. 6 and 6.1),

wherein the information signal includes one or more generation errors based on variances of the

body part (Sect. 1; Sect. 3-3.2.1); an index generation means for dynamically generating one or

more indices from the information signal, wherein the one or more indices are generated by

processing the information signal (Sect. 5.1, para 3) by selecting only a portion of the

information signal such that generation errors based on variances of the body part are determined to be within a predetermined error level within the selected portion of the information signal and generating the indices using only the selected portion of the information signal (Sect. 1; Sect. 3-3.2.1; Sect. 5.1; Sect. 6.1), and a linking means to link at least one of the indices to an identity for the body part (Sect. 5.1; Sect. 2.2).

Regarding claim 2, Davida discloses an index as a function of a subset of data of the information signal (Sect. 5.1).

Regarding claim 3, Davida discloses generating indices from different partial information from said selected portion of the information signal or transformation of said selected portion of the information signal (Sect. 3-3.2.1; Sect. 5.1; Sect. 6.1).

Regarding claim 4, Davida discloses the information signal impressed with characteristics of a body part including a human eye (Sect. 6.1).

Regarding claim 12, Davida discloses applying error correcting codes to reduce errors in the information signal before dynamically generating one or more indices from the information signal (Sect. 3.2).

Regarding claim 13, Davida discloses the error correcting codes include computing roots of a polynomial over a Galois Field (Sect. 3.2, Algebraic decoding).

Regarding claim 14, Davida discloses dynamically generating one or more indices from the information signal by generating the one or more indices as hash values using a predetermined hashing function on the information signal (Sect. 5.1).

Regarding claim 15, Davida discloses the indices generated from the information signal cannot be used to reveal information about the characteristics of the body part included in the information signal (Sect. 5.1, page 155).

Regarding claim 16, Davida discloses generating an information signal impressed with characteristics of a body part (Sect. 6 and 6.1), wherein the information signal includes one or more generation errors based on variances of the body part (Sect. 1; Sect. 3-3.2.1); selecting a portion of the information signal such that generation errors based on variances of the body part are determined to be within a predetermined error level within the selected portion of the information signal and generating the indices using only the selected portion of the information signal (Sect. 1; Sect. 3-3.2.1; Sect. 5.1; Sect. 6.1), processing the selected portion of the information signal to remove errors thereby creating a processed information signal (Sect. 3.2; Sect. 5.1), dynamically generating one or more indices from the processed information signal (Sect. 5.1), wherein one or more indices generated from the information signal cannot be used to reveal information about the body part included in the processed information signal (Sect. 5.1, page 155), obtaining a biometric template using one or more generated indices, wherein the biometric template includes an identity for the body part, and verifying the identity for the body part in the biometric template using the one or more generated indices (Sect. 5.1).

Regarding claims 17-20, the arguments analogous to those presented above for claims 13-15 and 4 are applicable to claims 17-20, respectively.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 5, 6, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Davida et al. ("On Enabling Secure Applications Through Off-line Biometric").

Regarding claim 5, Davida discloses a body part input means for generating an

information signal impressed with characteristics of a body part (Sect. 6 and 6.1), wherein the

information signal includes one or more generation errors based on variances of the body part

(Sect. 1; Sect. 3-3.2.1); an index generation means for dynamically generating one or more

indices from the information signal, wherein the one or more indices are generated by processing

the information signal (Sect. 5.1, para 3) by selecting only a portion of the information signal

such that generation errors based on variances of the body part are determined to be within a

predetermined error level within the selected portion of the information signal and generating the

indices using only the selected portion of the information signal (Sect. 1; Sect. 3-3.2.1; Sect. 5.1;

Sect. 6.1),an information hiding means for hiding at least one index to obtain transformed

biometric templates (Sect. 3.1; Sect. 5.1), and a verification means for verifying transformed

biometric template with template linked by associated index (Sect. 5.1). Davida does not

expressly disclose a transmission means for transmitting at least one transformed biometric

template and index pair. However, Davida discloses that the off-line system is also applicable to

on-line systems where information is stored in an on-line database instead of on storage cards

(Sect. 2.2, NOTE), and would thereby entail a transmission means. Therefore, it would have

been obvious to one of ordinary skill in the art to have modified the system disclosed by Davida

to expressly include a transmission means because it is a well-known methodology routinely

utilized in the art and enables the reduction of security requirements imposed on the database,

where privacy restrictions on the information exit (Sect. 2.2, NOTE).

Regarding claim 6, Davida discloses the information signal is generated from multiple

readings of the body part (Sect. 5.1; Sect. 6.1).

Regarding claim 8, Davida discloses including a hamming weight test (Page 149, col. 2;

Sect. 6.1).

Regarding claim 9, Davida discloses validation for authorization (Sect. 1; Sect. 5.1).

Regarding claim 10, the arguments analogous to those presented above for claim 5 are

applicable to claim 10. Note, the on-line system entails transmission means to accept points.

Regarding claim 11, Davida discloses the biometric template including at least one index

composed with the information signal (Sect. 5.1).

10.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davida et al. ("On

Enabling Secure Applications Through Off-line Biometric Identification") as applied to claim 5

above, and further in view of Canetti ("Towards Realizing Random Oracles: Hash Functions that

Hide all Partial Information").

Regarding claim 7, Davida discloses using a hash function as an information hiding

means (Sect. 3.1). Davida does not appear to recognize using exclusive-or for signal

transformation. However, Canetti teaches that it is known to use a hash function including

exclusive-or for signal transformation (Page 465, para. 3). Therefore, it would have been

obvious to one of ordinary skill in the art at the time of the invention to have modified the hash function disclosed by Davida to include using exclusive-or, as taught by Canetti, because it allows hiding all partial information of the signal (Abstract, lines 16-18) to protect a user's biometric template.

Contact Information

11.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Virginia Kibler can be reached on (703) 306-4072. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Virginia Kibler
1/19/05

MEHRDAD DASTOURI
PRIMARY EXAMINER